

von *Trichoniscus* anzusehen geneigt ist. Mit Rücksicht auf den Bau der vorderen Antennen und der Mundwerkzeuge sehe ich mich veranlaßt, Verhoeffs Ansicht beizustimmen, d. h. *Tithanetes* wenigstens als nächsten Verwandten von *Trichoniscus* zu betrachten. Wenn die beiden Sarsschen Familien der Ligiidae und Trichoniscidae überhaupt als solche aufrecht erhalten werden können, so muß *Tithanetes* jedenfalls aus der ersteren ausgeschieden und den Trichoniscidae zugewiesen werden.

3. A new Genus and Species of Solenogastres.

By Harold Heath, Stanford University, Calif., U. S. A., Department of Zoology.

eingeg. 11. Oktober 1904.

Thiele¹ and especially Nierstraß² have called attention to the fact that in recent years several new species have been included in the genus *Chaetoderma* whose eligibility is exceedingly doubtful. *Chaetoderma radulifera* Kow. with its large radula containing nine rows of five teeth each, peculiar "jaws" and small liver is certainly not closely related to *Chaetoderma nitidulum* the type of the genus, and from all appearances deserves the generic name *Prochaetoderma* proposed by Thiele. The case against *Ch. gutterosum* Kow., *Ch. loveni* Nierstr. and *Ch. wireni* Nierstr. is not so strong and yet is certain that these species lack several typical characters. In the first place the radula is comparatively complex, consisting as it does of one or two rows with several teeth in each row together with a great median tooth and lateral plates. It is possible that some of these so called teeth may subsequently prove to be merely plates for the attachment of muscles that move the teeth or radula supports; but at the present time so great an uncertainty exists concerning these and other matters related to the internal organization of these forms that it seems best not to attempt to revise the classification until we have a more perfect knowledge of their anatomy.

In 1895 Mr. Cloudsley Rutter, late of the U. S. Fish Com. sent two specimens of solenogastres from Yakutat Bay, Alaska and two years ago a number of additional individuals were taken by the Str. Albatross in Lynn Canal and Chatham Straits, Alaska in water of about 300 fath. depth. In some respects, especially in the arrangement of the organs in the posterior end of the body, this species con-

¹ Die systematische Stellung der Solenogastren und die Phylogenie der Mollusken. Zeitschr. f. wiss. Zool. Bd. LXXII. S. 275.

² The Solenogastres of the Siboga-Expedition. p. 42. — Neue Solenogastren. Zool. Jahrb. Bd. 18. S. 365.

forms to the genus *Chaetoderma* but in the presence of a highly developed radula and various other characters mentioned in the succeeding paragraphs the relationship is much more remote and I have accordingly made it the type of a new genus, *Limifossor* (a digger of ooze) giving it the specific name *talpoideus* (like a mole).

The body of *Limifossor talpoideus* is relatively short measuring in the largest specimen 12 mm by 2 mm in the greatest diameter, and this ratio of 1:6 is remarkably constant. While a ventral furrow is absent a space exists between the ventral longitudinal muscles in the mid ventral line corresponding to the position of the foot in the Neomenidae. The spicules, one layer in thickness, are of spearhead shape and range in size from exceedingly minute bodies on the inconspicuous prothorax to others 0,38 mm in length in the cloacal region. The frontal sense organ consists of two elevated triangular disc-like areas at the latero-posterior borders of the mouth. The posterior dorsal sense organ presents the appearance of a well defined groove in the mid line at the hinder end of the body.

The mouth cavity is devoid of any special sense organs and passes insensibly into the pharynx which in turn leads into the slender oesophagus. In the mid line beneath the front end of the radula a sense organ is present innervated by a subradular commissure arising from the vicinity of the buccal ganglia. The radula is of enormous proportions, being fully one seventh the length of the body. It is of the distichous type and in two specimens contains 28 transverse rows. The radula sac is accordingly of large size and the matrix cells within present a striking resemblance to those forming the radula of the prosobranchs and chitons. The radula supports are likewise highly developed and are operated by a complex system of muscles that will be more fully described at a future time. There are two dorsal salivary glands in the form of small knob-like projections of the digestive tract. Farther backward a well developed stomach exists and posteriorly gives attachment to the slender intestine and more ventrally to the liver. The liver is a well developed tubular organ, with numerous irregular sacculations, that ends blindly against the forward cloacal wall. The gut courses backward on the right side of the body in contact with the gonad and opens into the cloaca in the mid line.

As noted previously the relations of the organs in the posterior end of the body resemble in a general way those of *Ch. nitidulum* for example. The sexes are separate and the gonad connects by two ducts with the pericardium that in turn communicates with the cloaca by two simple gonoducts provided with glandular walls.

The heart occupies the usual position and anteriorly gives rise to

a clearly defined vessel, the aorta, that pursues its way forward between the halves of the gonad to the head cavity that posteriorly is separated by a diaphragm as well developed as in the chitons. From this space the blood makes its way backward by the pedal sinus and the connected visceral cavity to the branchiae that in their relations and general appearance are of the ordinary type. Each gill has 28—30 lamellae and is innervated by two nerves from the superior posterior ganglion.

The globular bilobed brain, to which are attached five pairs of accessory ganglia innervating the frontal sense organ, is situated dorsal to the buccal tube. From it arise three pairs of connectives, the pedal pallial and buccal. In the region of the cloaca the pedal and pallial ganglia unite and are connected by commissures with the superior posterior ganglion located above the rectum. The buccal connectives unite on each side of the salivary glands with the buccal ganglia that are also connected by the usual sub-oesophageal commissure and by another passing dorsal to the gut. Very close to the front end of each ganglion a commissure arises that passes round the forward wall of the pharynx and innervates the subradular organ. The relations of this important feature of the nervous system will be described in another paper.

From the foregoing it will be seen that the more important characters of the genus *Limifossor* are as follows: Body short, length index 1 : 6. Radula very large, of the distichous type with 28 transverse rows. Dorsal salivary glands present. Stomach and liver well developed and distinct from the relatively long slender intestine³.

4. Über die systematische Stellung von *Polyarthra fusiformis* Spencer.

Von Stan. Hlava, Assistent am Museum Prag.

(Mit 4 Figuren.)

eingeg. 15. Oktober 1904.

In den letzten zwei Jahren habe ich mich während der Sommermonate etwas eingehender mit der Fauna der Torfwässer Südböhmens und zwar hauptsächlich mit Rücksicht auf die Rädertiere beschäftigt. Besonders lenkten meine Aufmerksamkeit kleine Wasserbecken auf dem ausgedehnten Torfgrunde zwischen Borkowitz und Mažitz bei Wesseli an der Lužnitz, der unter dem Namen »Blata« bekannt ist. Es befindet sich hier eine ganze Reihe solcher Wasserbecken, welche kaum eine Ausdehnung von 4 qm erreichen, dabei jedoch ziemlich tief

³ This diagnosis applies accurately to another as yet undescribed species belonging to this genus.